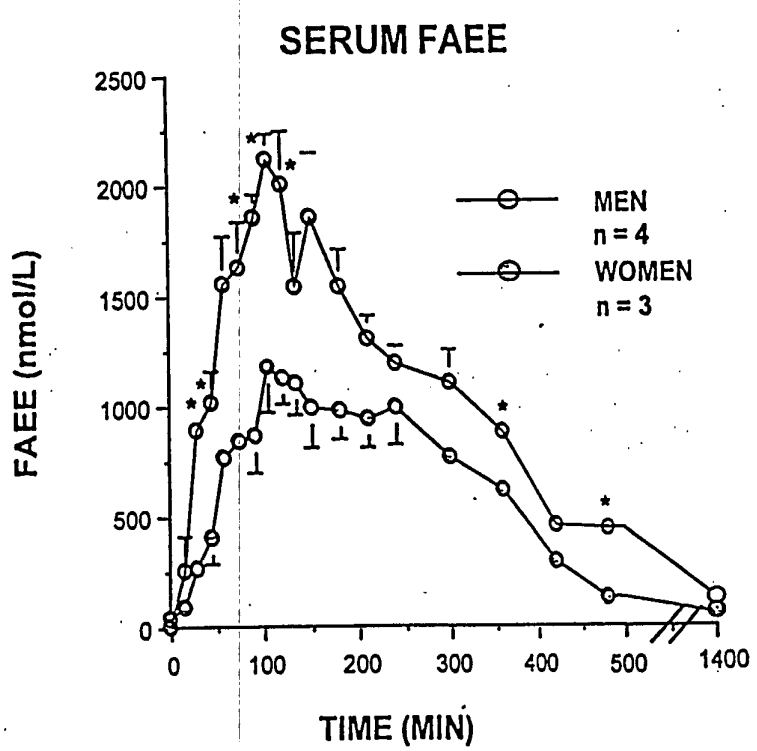
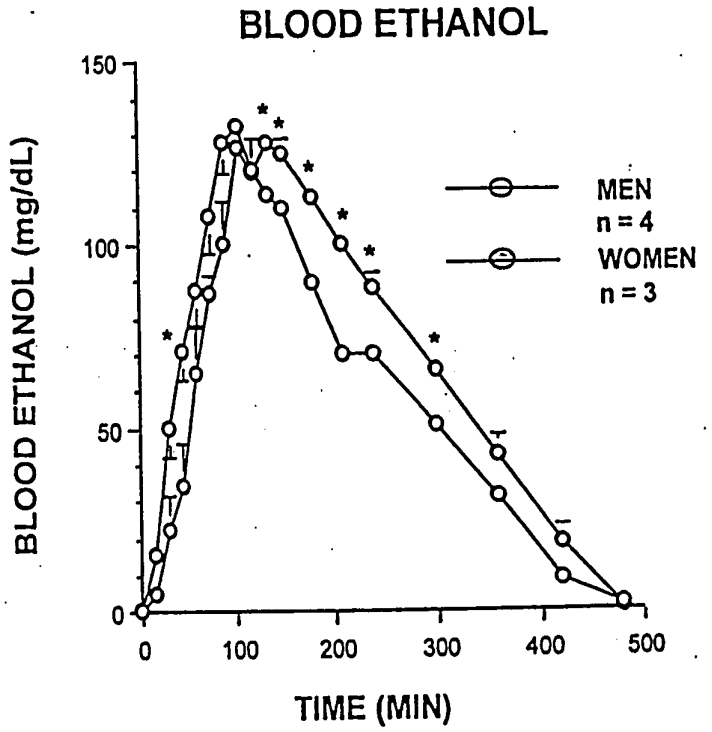
Figure 1


SERUM FAEE
FAEE (nmol/L)
2500
2000
1500
1000
500
0
0
100
200
300
400
500
1400
TIME (MIN)
MEN
n = 4
WOMEN
n = 3


BLOOD ETHANOL
BLOOD ETHANOL (mg/dL)
150
100
50
0
0
100
200
300
400
500
TIME (MIN)
MEN
n = 4
WOMEN
n = 3

TOATCO* 66086260

Figure 2

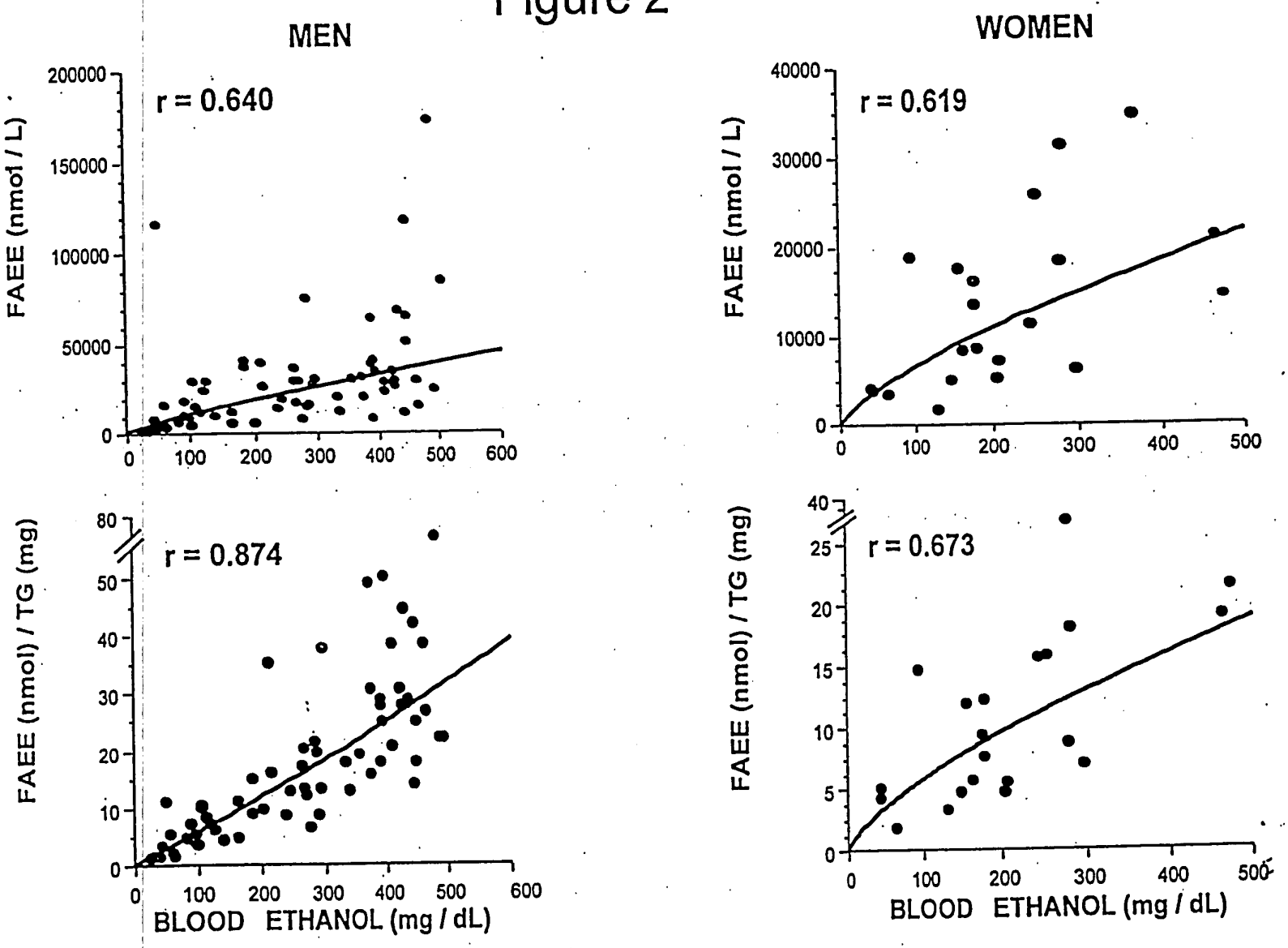


Figure 3

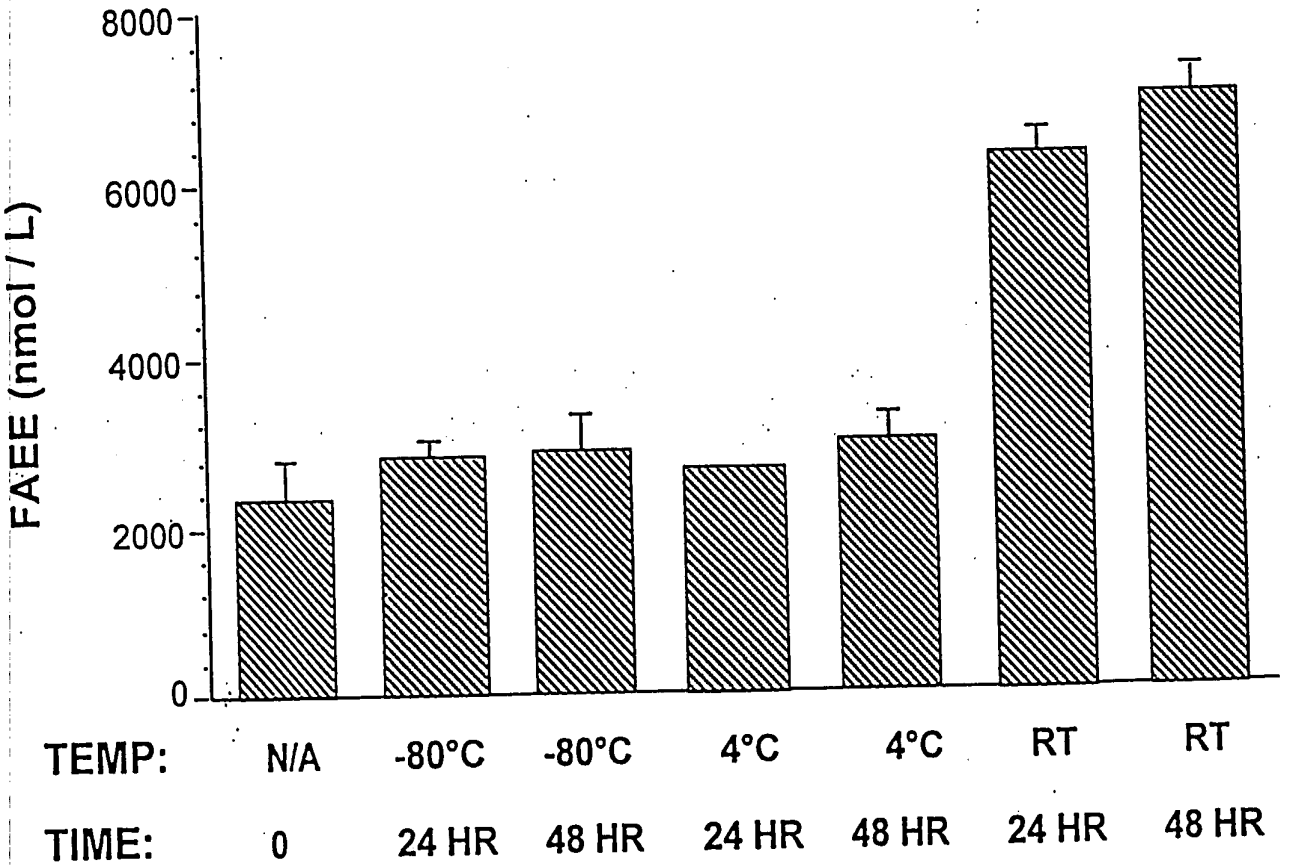
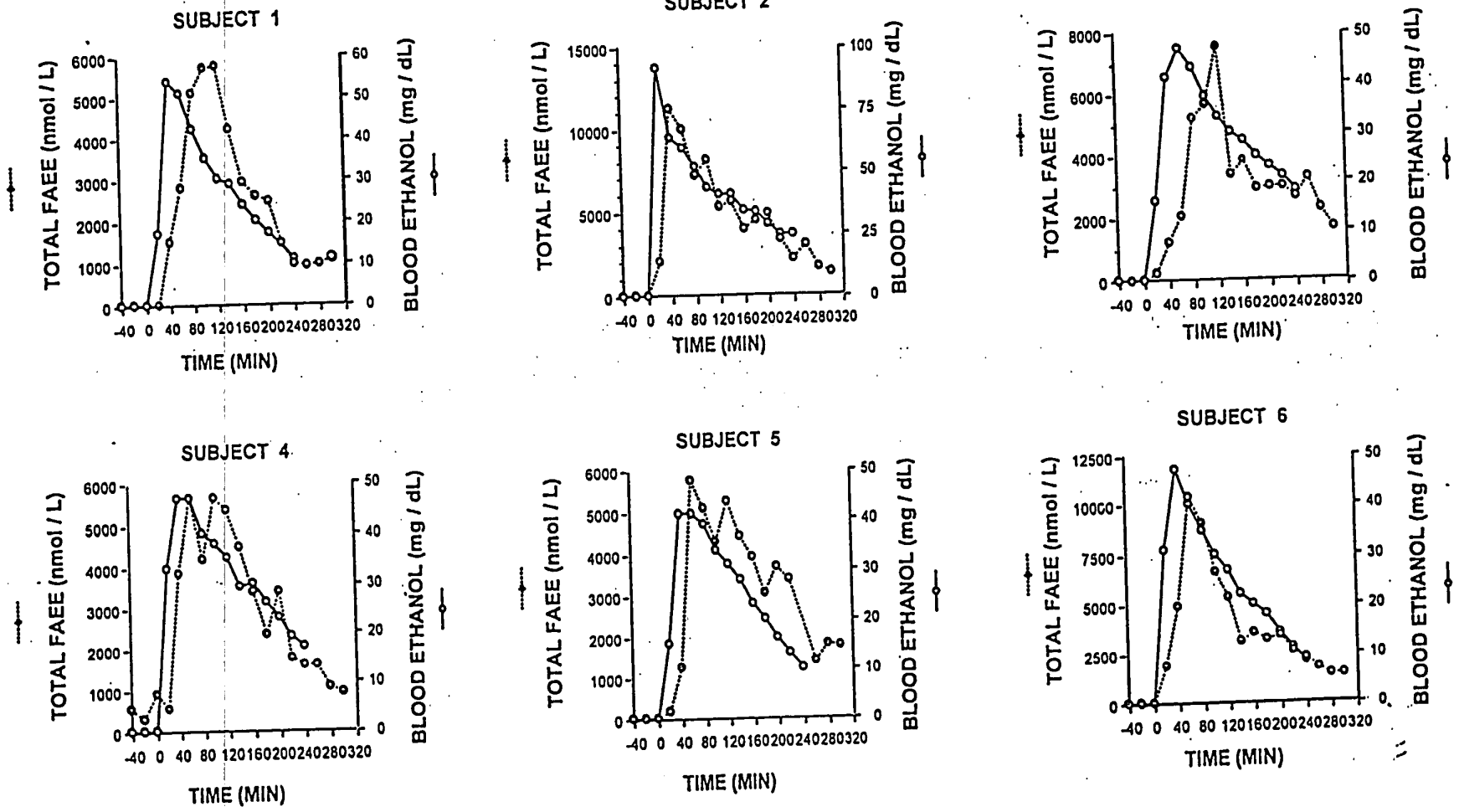
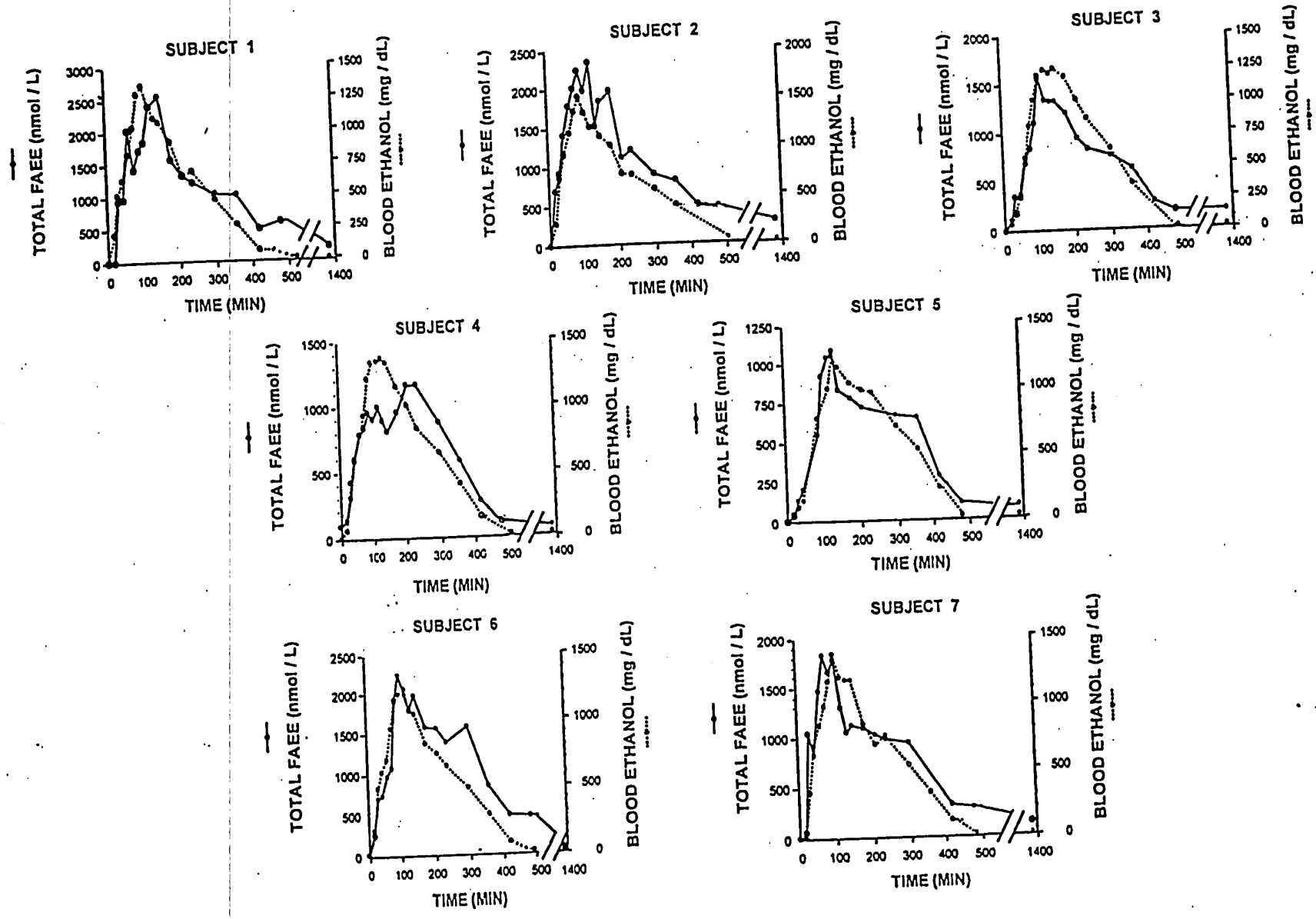

8000
6000
4000
2000
0
FAEE (nmol / L)
TEMP: N/A -80°C -80°C 4°C 4°C RT RT
TIME: 0 24 HR 48 HR 24 HR 48 HR 24 HR 48 HR

Figure 4


SUBJECT 1
SUBJECT 2
SUBJECT 3
SUBJECT 4
SUBJECT 5
SUBJECT 6
TOTAL FAEE (nmol / L)
BLOOD ETHANOL (mg / dL)
TIME (MIN)
-40 0 40 80 120160200240280320

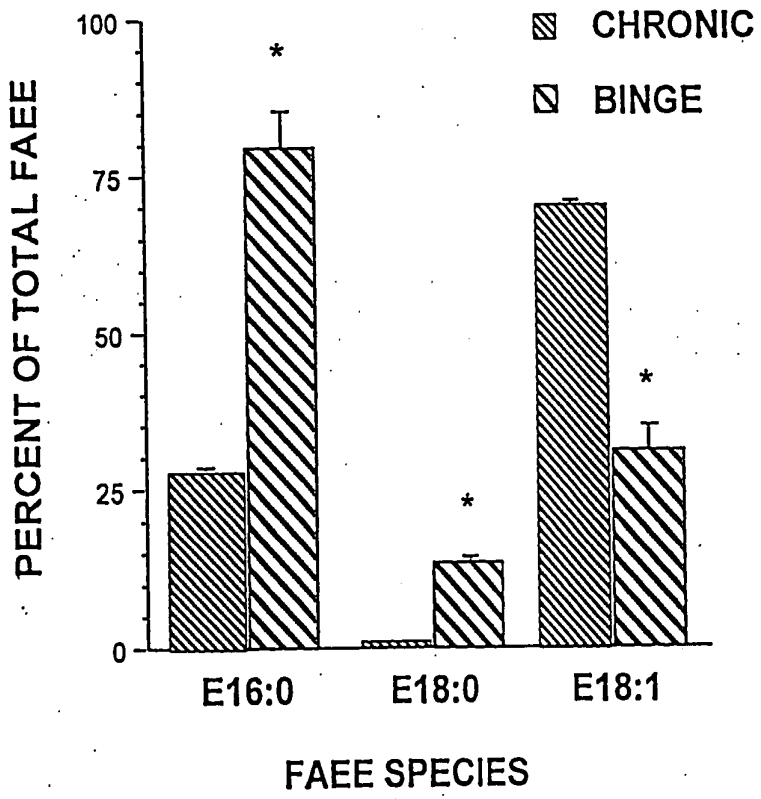
PCT/EP2005/050

Figure 5



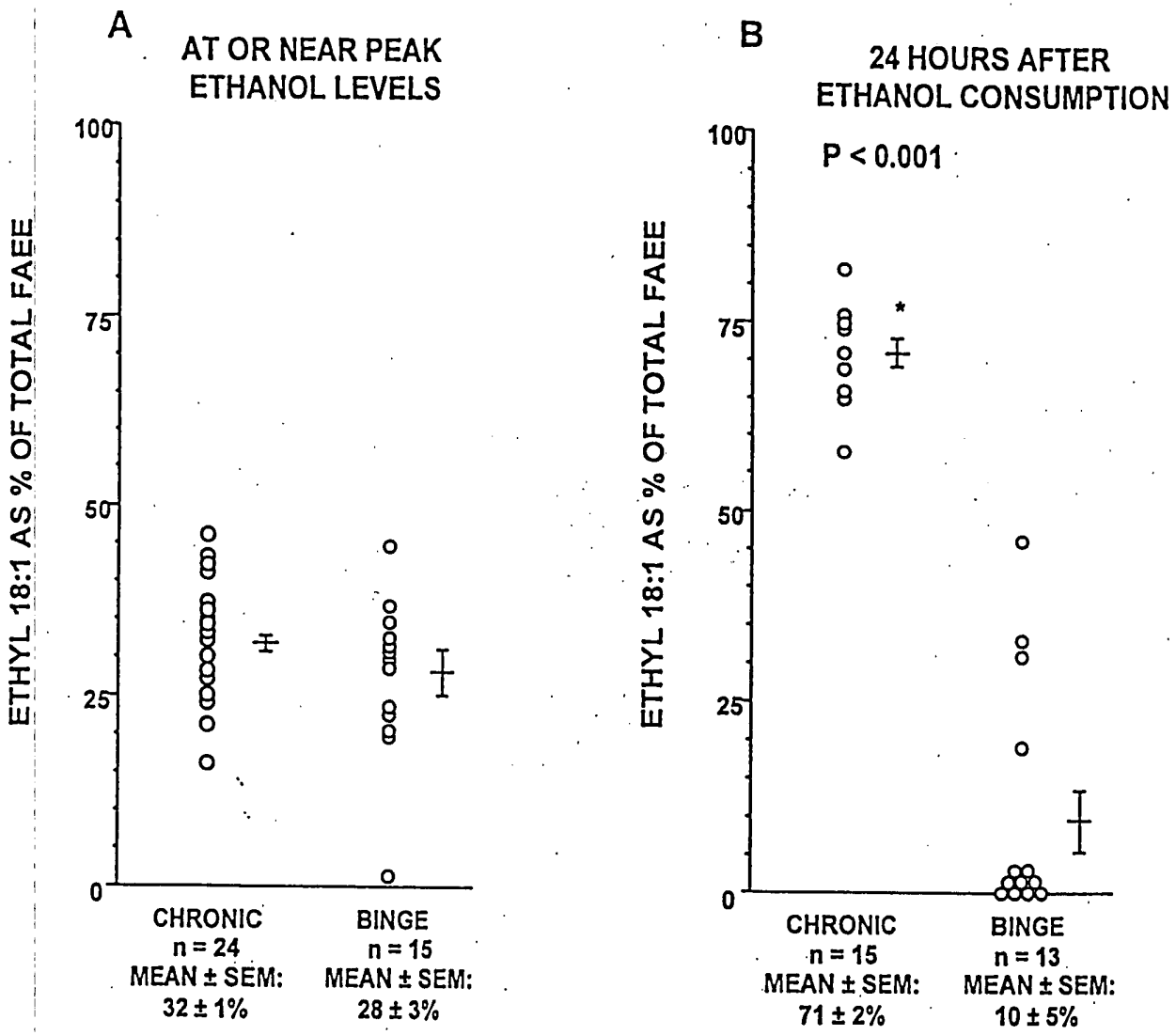
TOATSO" 66005260

Figure 6



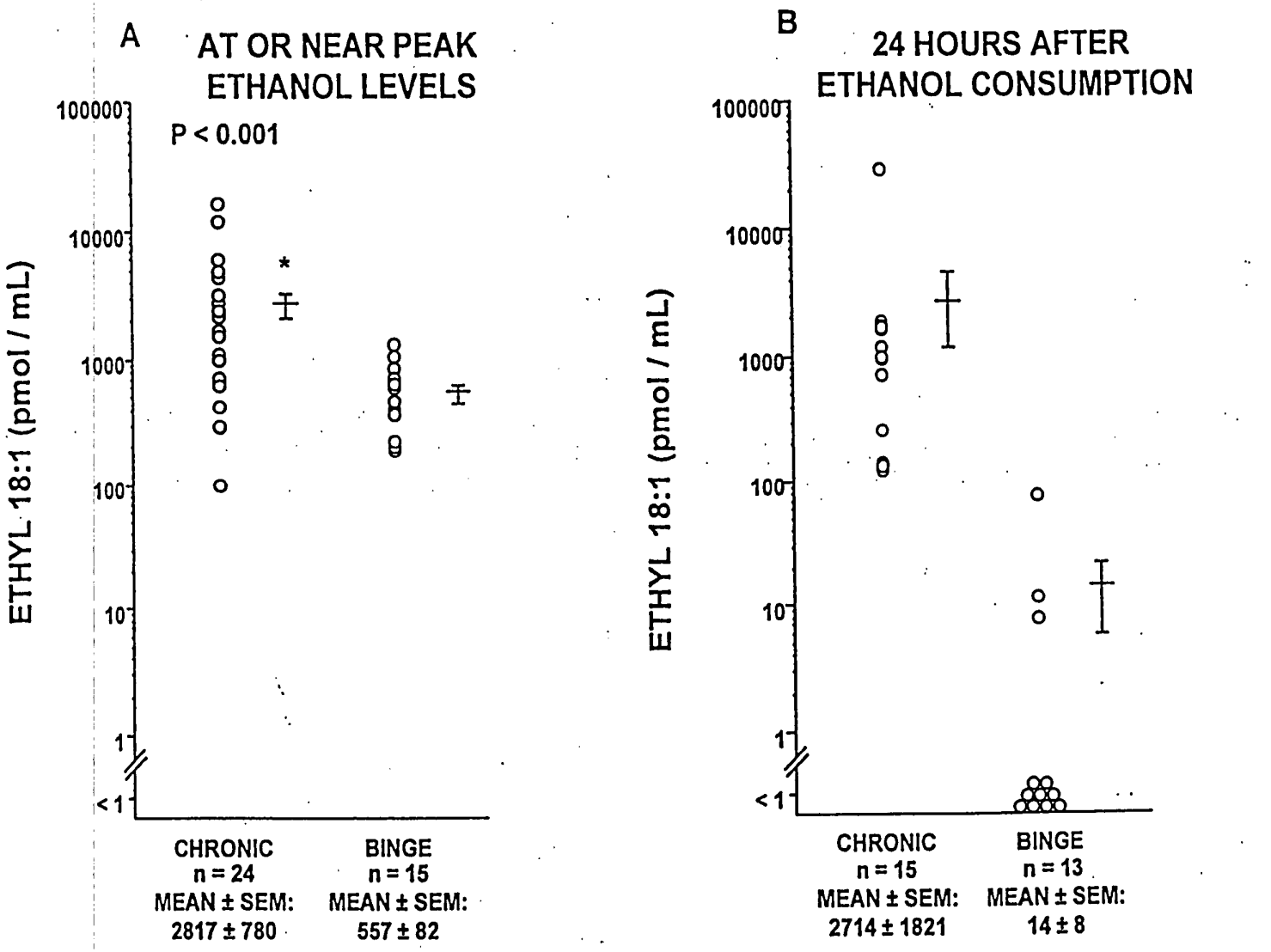
TOATSO" 6500626D

Figure 7



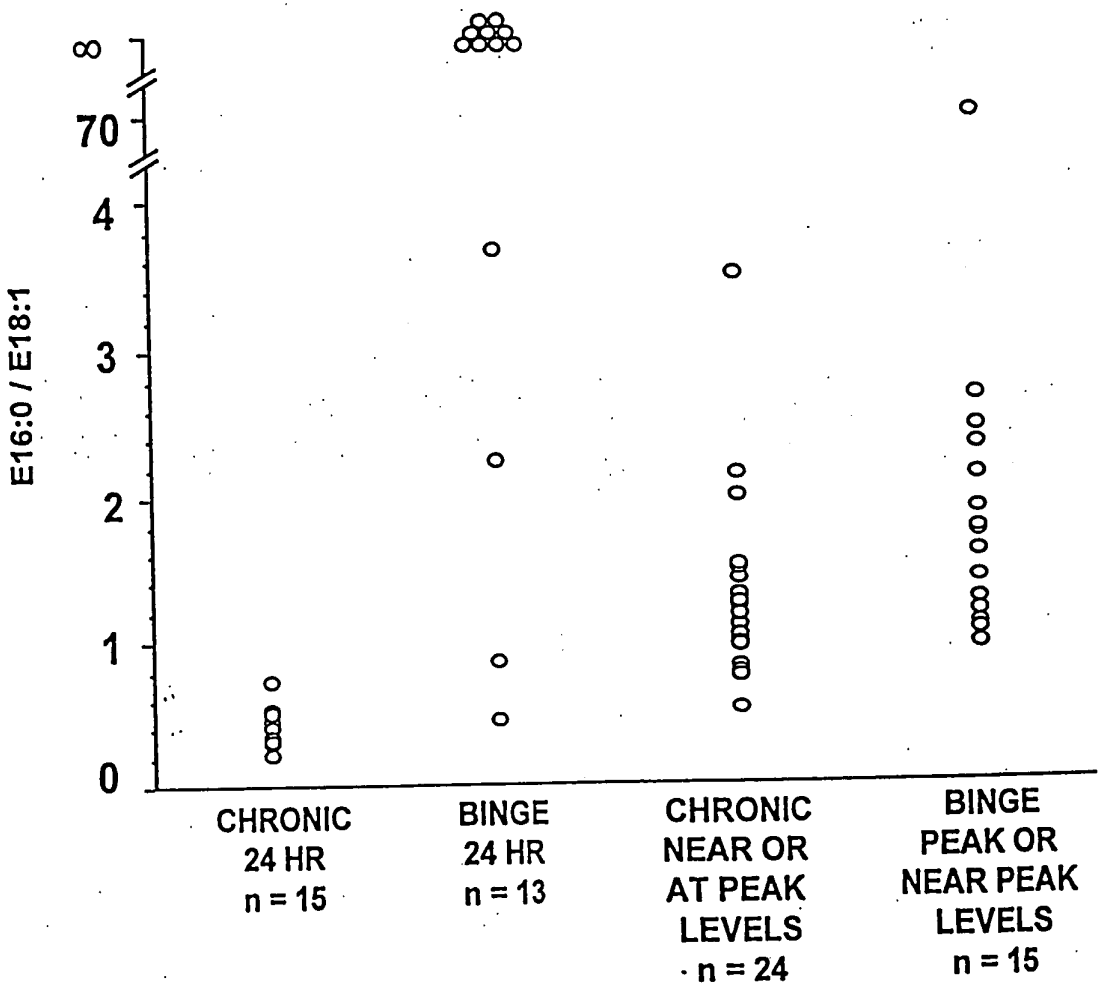
10215501 060905

Figure 8



TOATCO "6609626D

Figure 9



TOSTEO 66095260

Figure 10

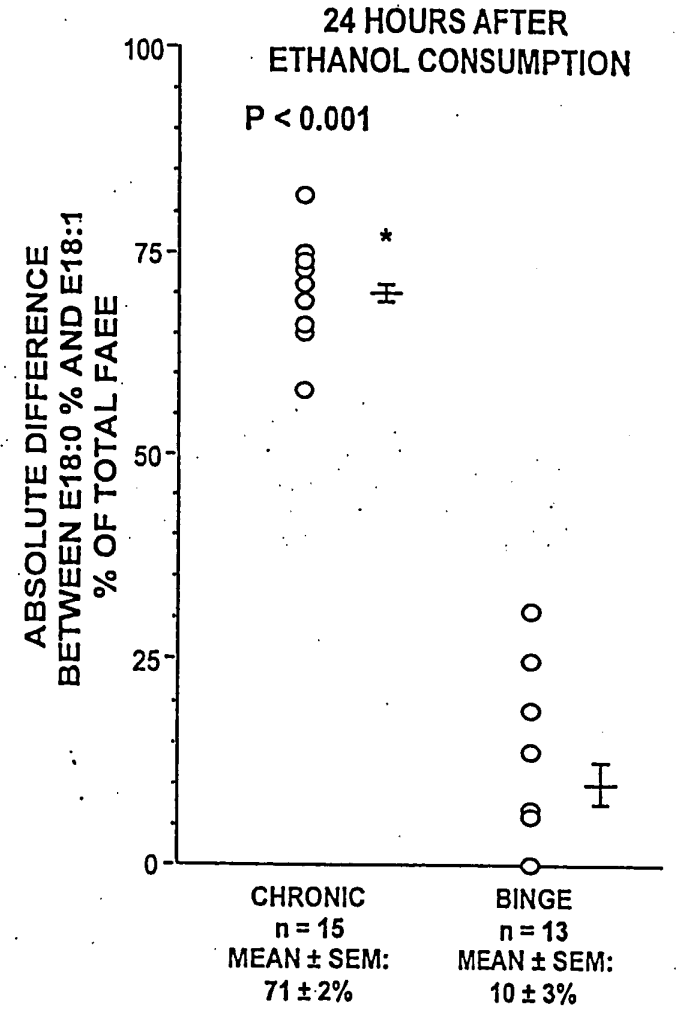


Figure 11

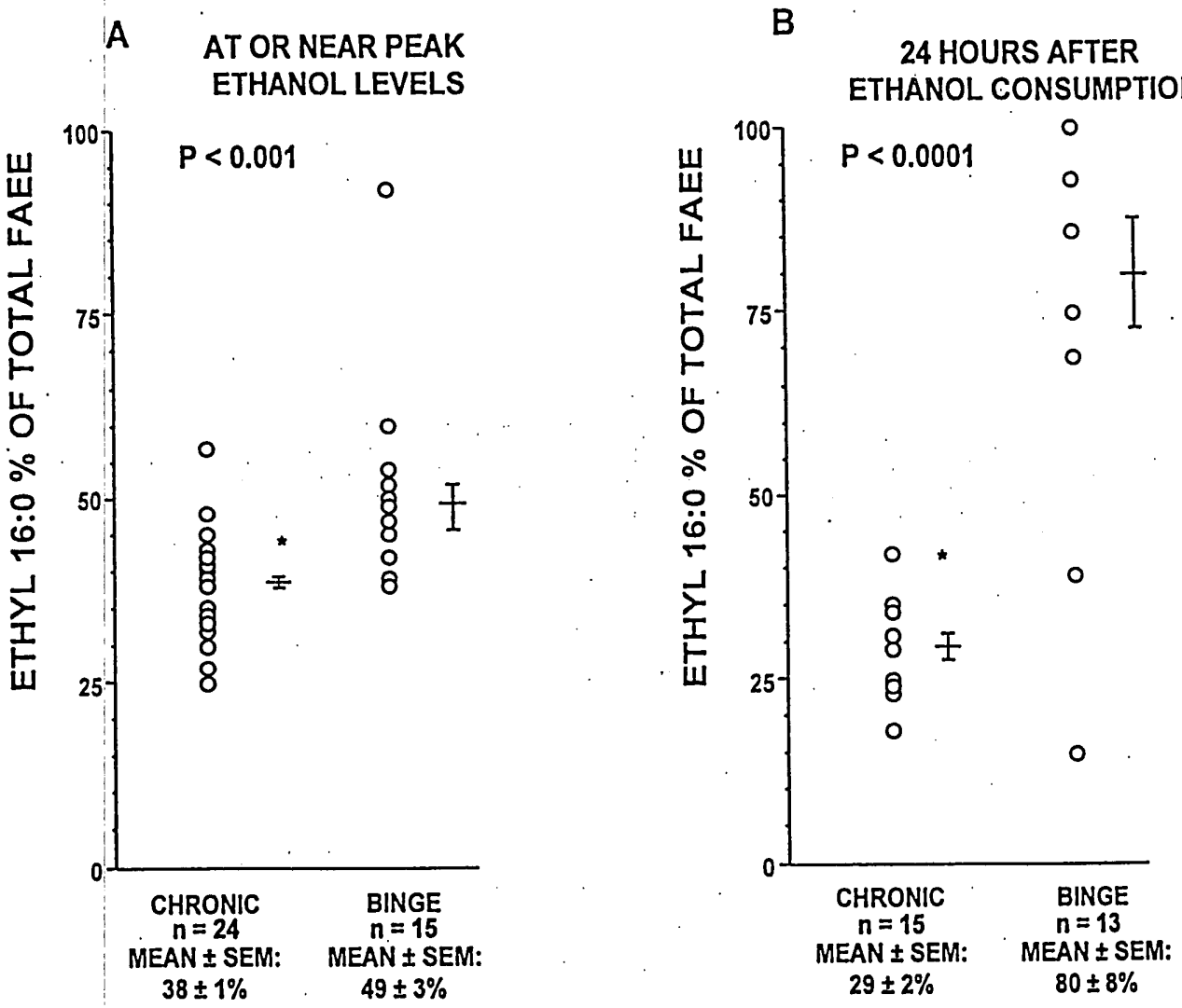
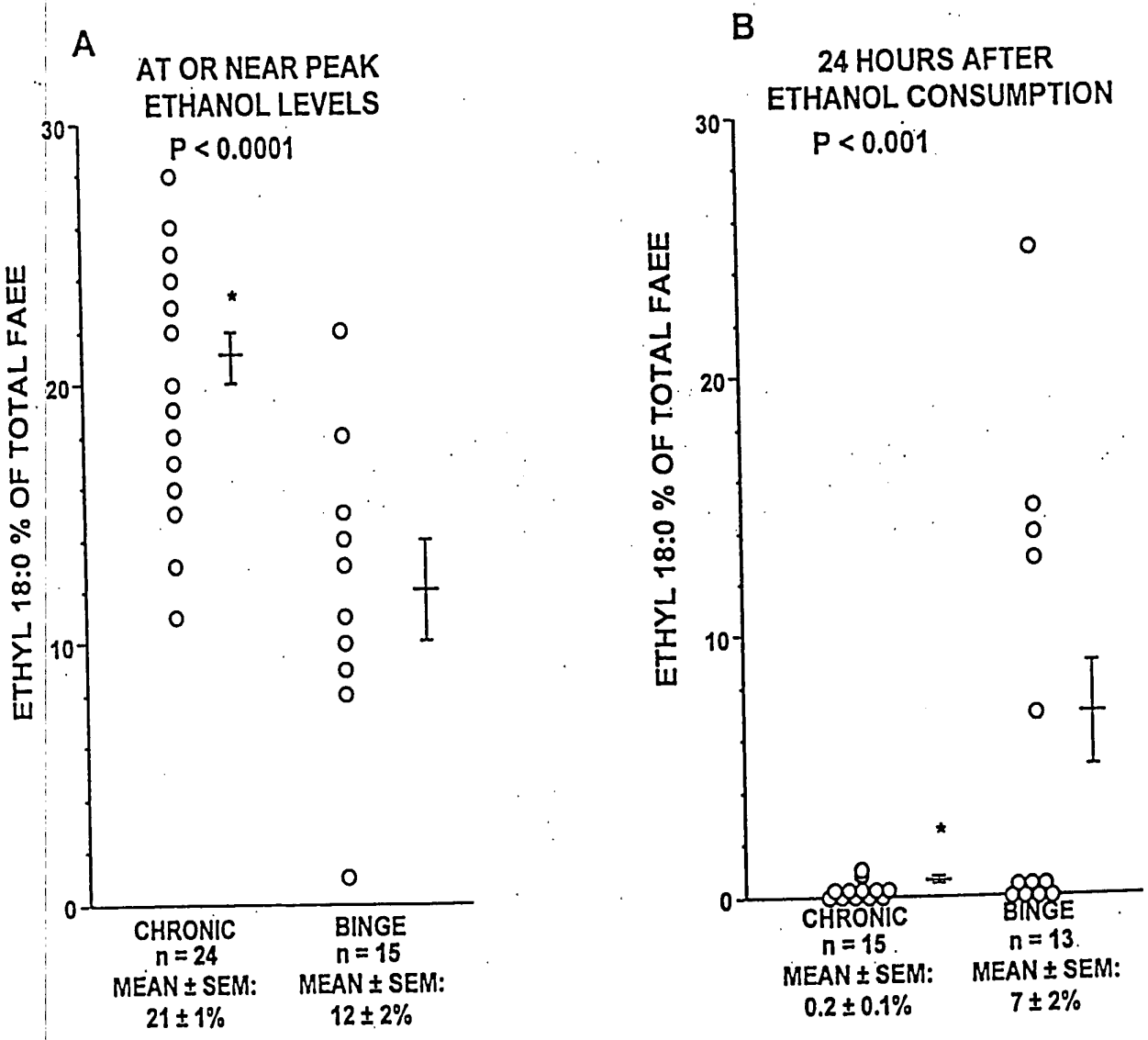

A
AT OR NEAR PEAK
ETHANOL LEVELS
P < 0.001
ETHYL 16:0 % OF TOTAL FAEE
100
75
50
25
0
CHRONIC
n = 24
MEAN ± SEM:
38 ± 1%
BINGE
n = 15
MEAN ± SEM:
49 ± 3%
B
24 HOURS AFTER
ETHANOL CONSUMPTION
P < 0.0001
ETHYL 16:0 % OF TOTAL FAEE
100
75
50
25
0
CHRONIC
n = 15
MEAN ± SEM:
29 ± 2%
BINGE
n = 13
MEAN ± SEM:
80 ± 8%

Figure 12


A
AT OR NEAR PEAK
ETHANOL LEVELS
P < 0.0001
ETHYL 18:0 % OF TOTAL FAEE
30
20
10
0
CHRONIC
n = 24
MEAN ± SEM:
21 ± 1%
BINGE
n = 15
MEAN ± SEM:
12 ± 2%
B
24 HOURS AFTER
ETHANOL CONSUMPTION
P < 0.001
ETHYL 18:0 % OF TOTAL FAEE
30
20
10
0
CHRONIC
n = 15
MEAN ± SEM:
0.2 ± 0.1%
BINGE
n = 13
MEAN ± SEM:
7 ± 2%

TOATSO" 6602260

Figure 13

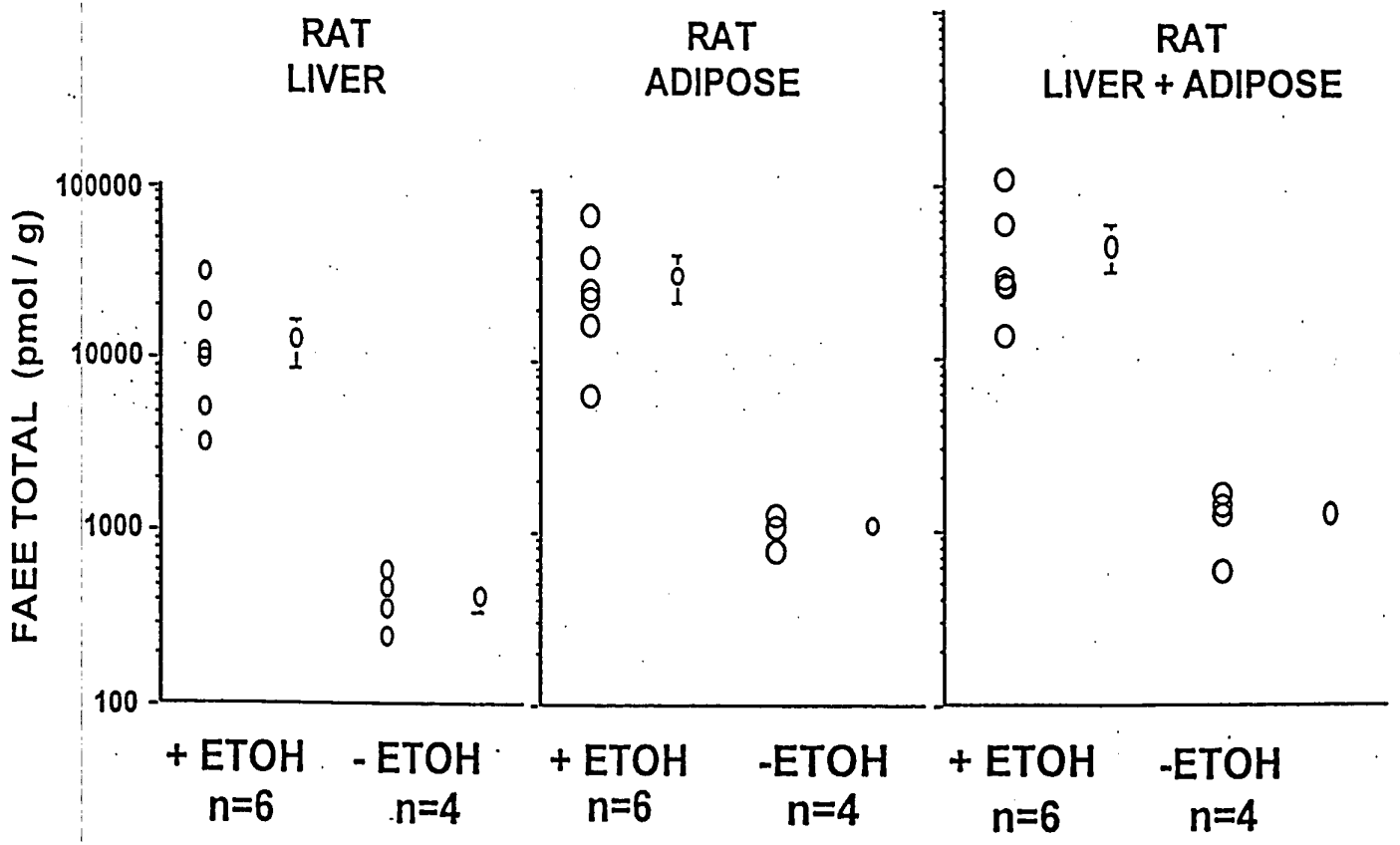


Figure 14

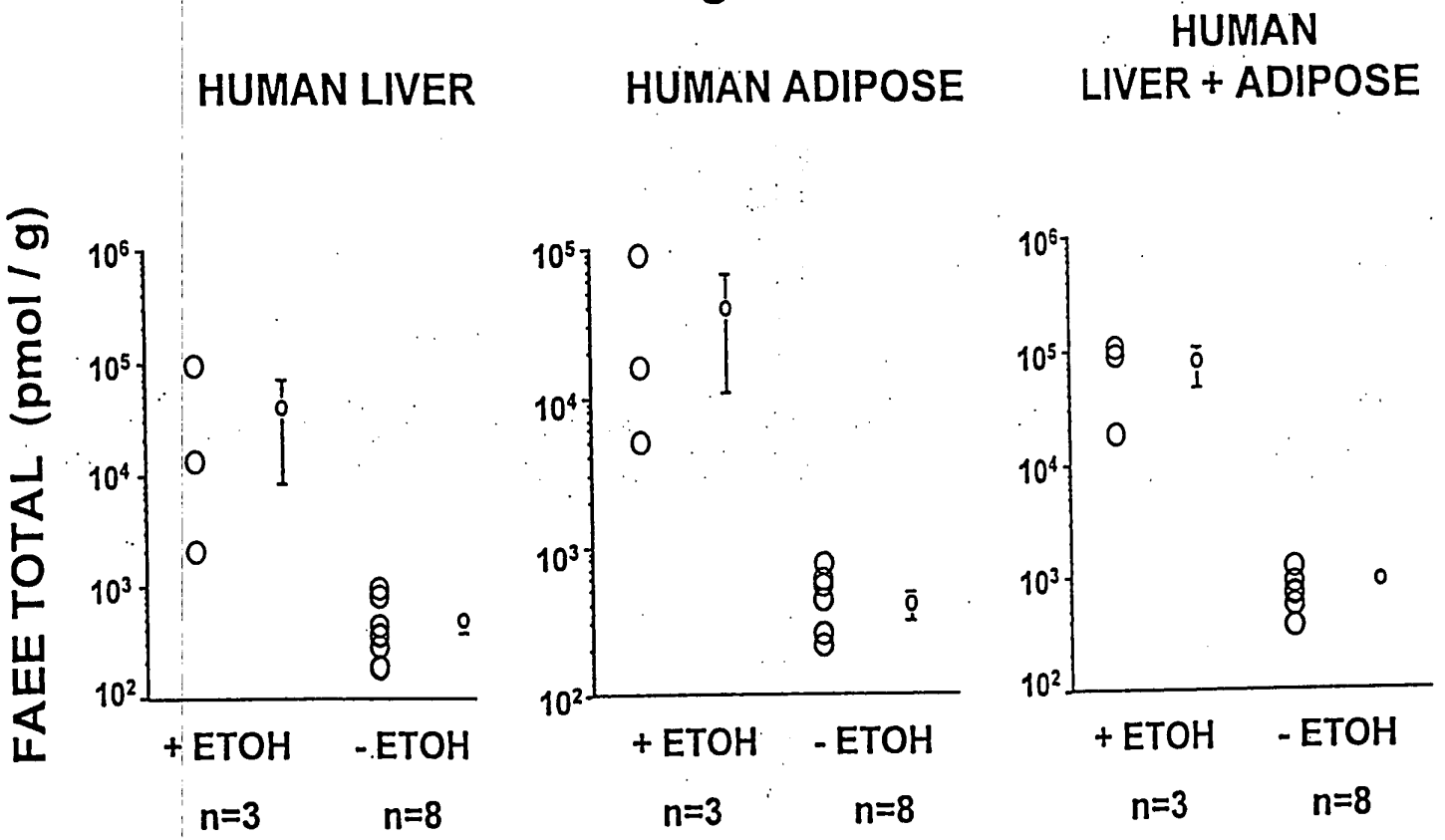

HUMAN LIVER
HUMAN ADIPOSE
HUMAN LIVER + ADIPOSE
FAEE TOTAL (pmol / g)
10^6
10^5
10^4
10^3
10^2
+ ETOH
- ETOH
n=3
n=8

Figure 15

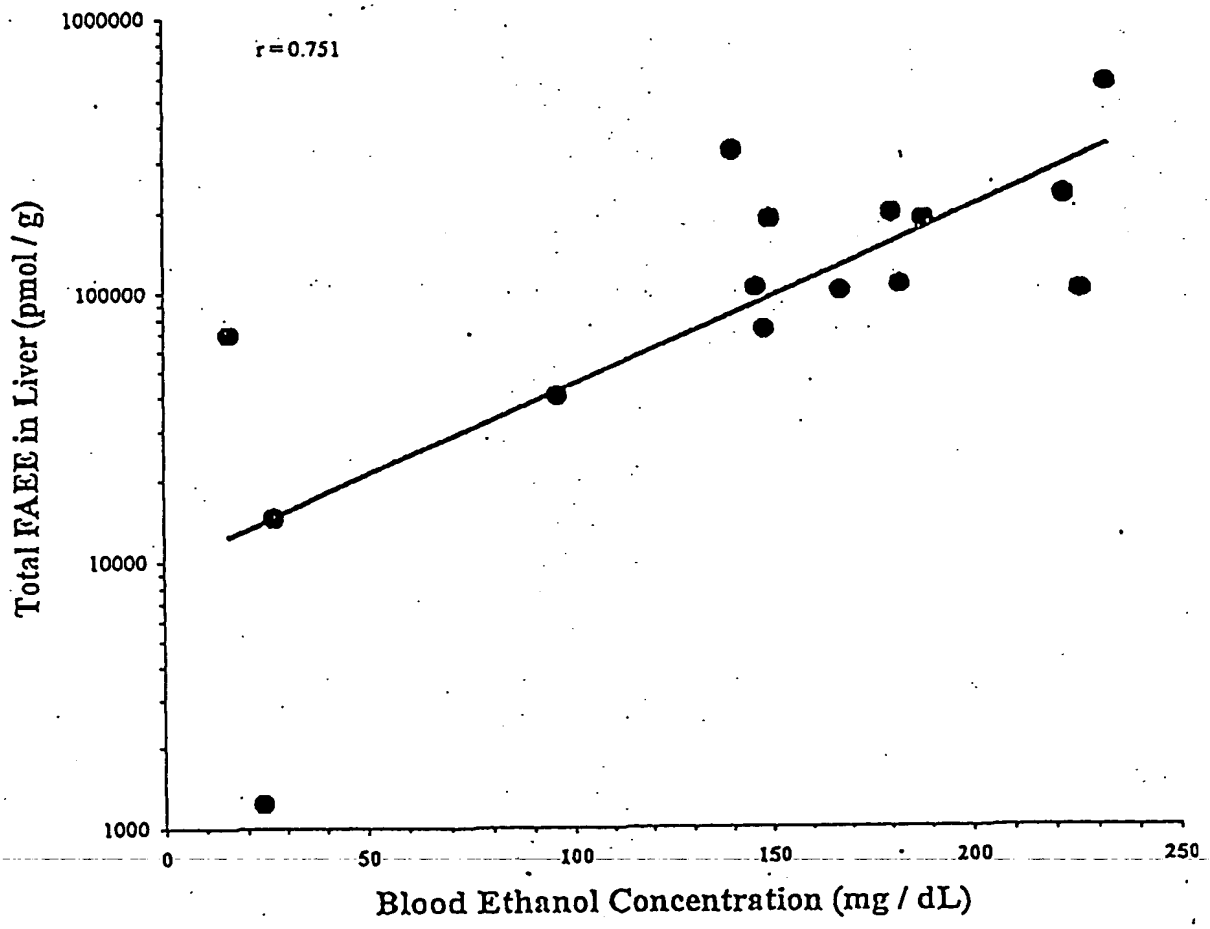

r = 0.751
1000000
100000
10000
1000
Total FAEE in Liver (pmol / g)
0
50
100
150
200
250
Blood Ethanol Concentration (mg / dL)

Figure 16

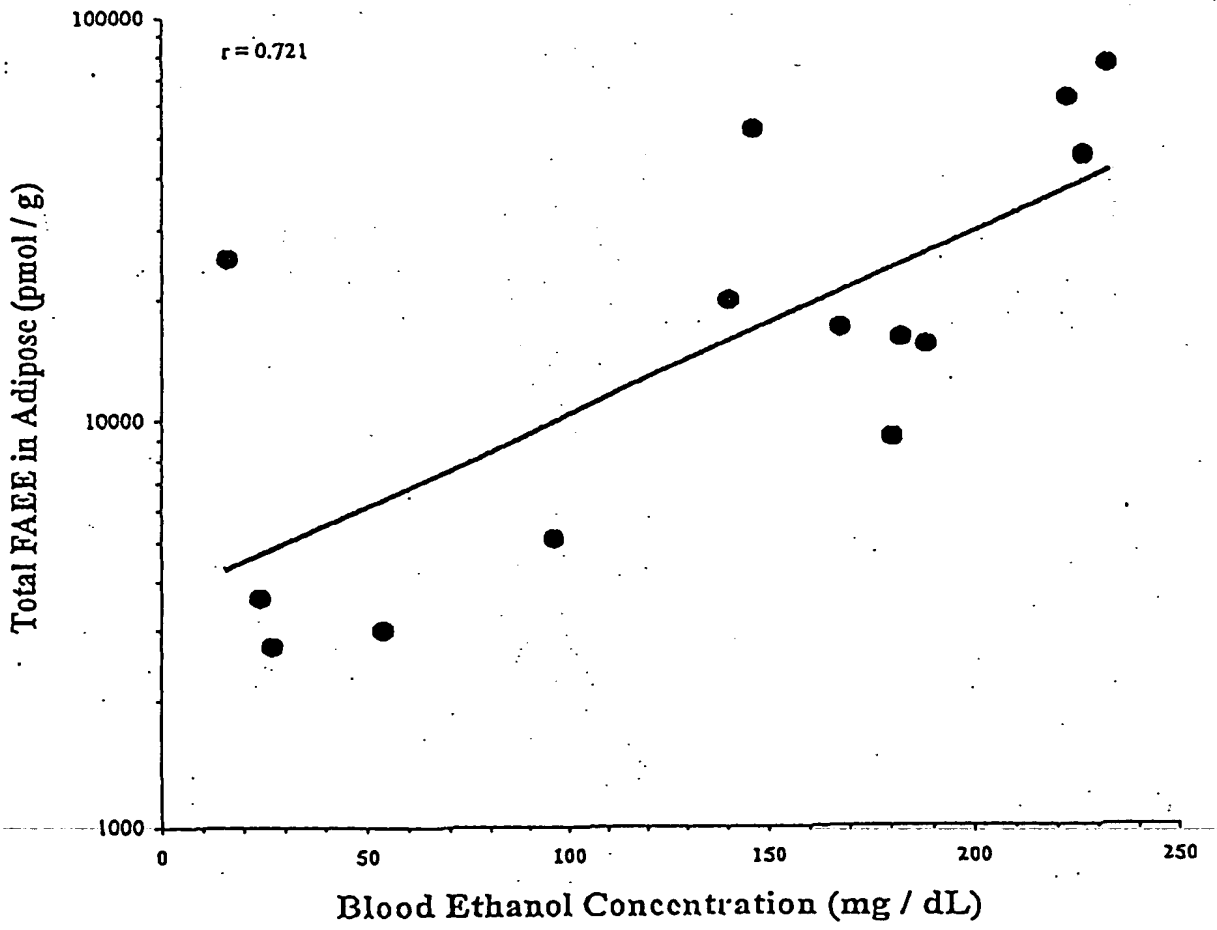

r = 0.721
100000
10000
1000
Total FAEE in Adipose (pmol / g)
0
50
100
150
200
250
Blood Ethanol Concentration (mg / dL)

Figure 17

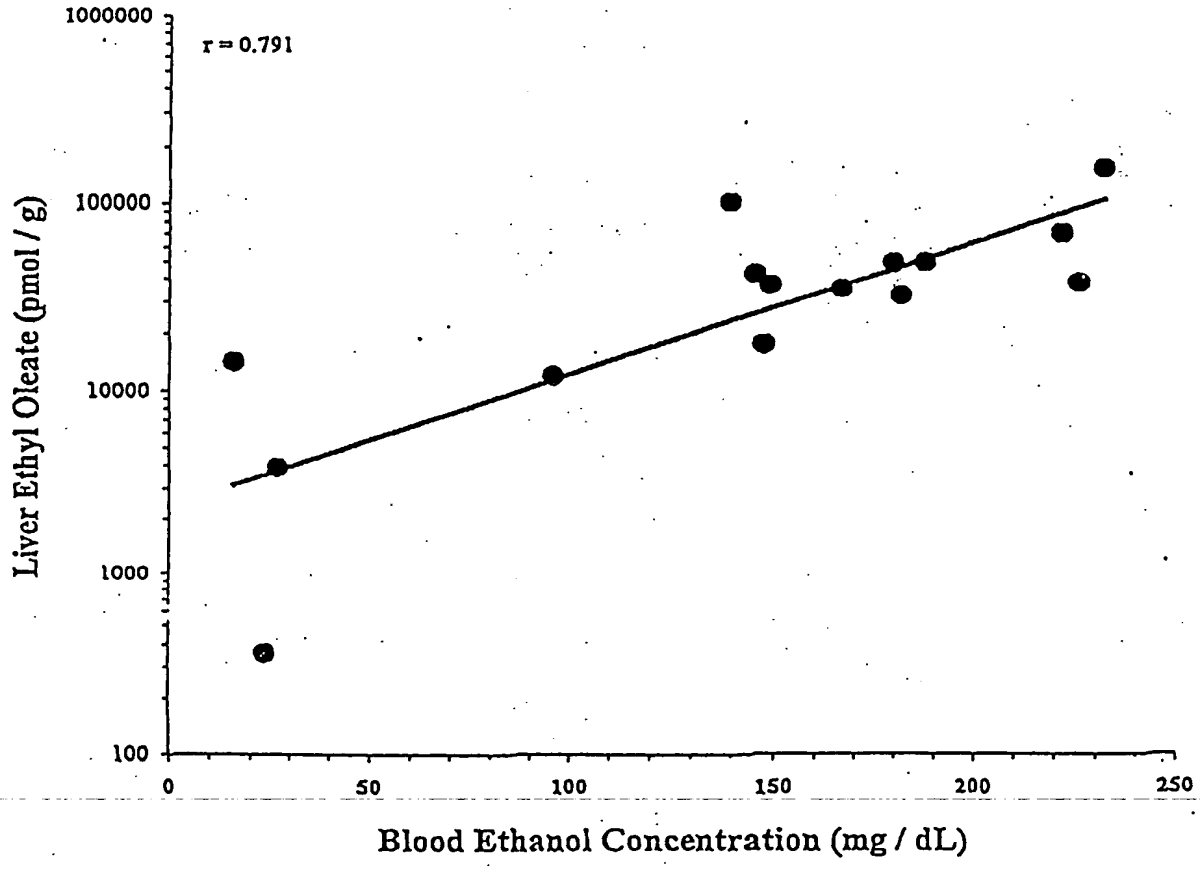

r = 0.791
Liver Ethyl Oleate (pmol / g)
1000000
100000
10000
1000
100
0
50
100
150
200
250
Blood Ethanol Concentration (mg / dL)

Figure 18

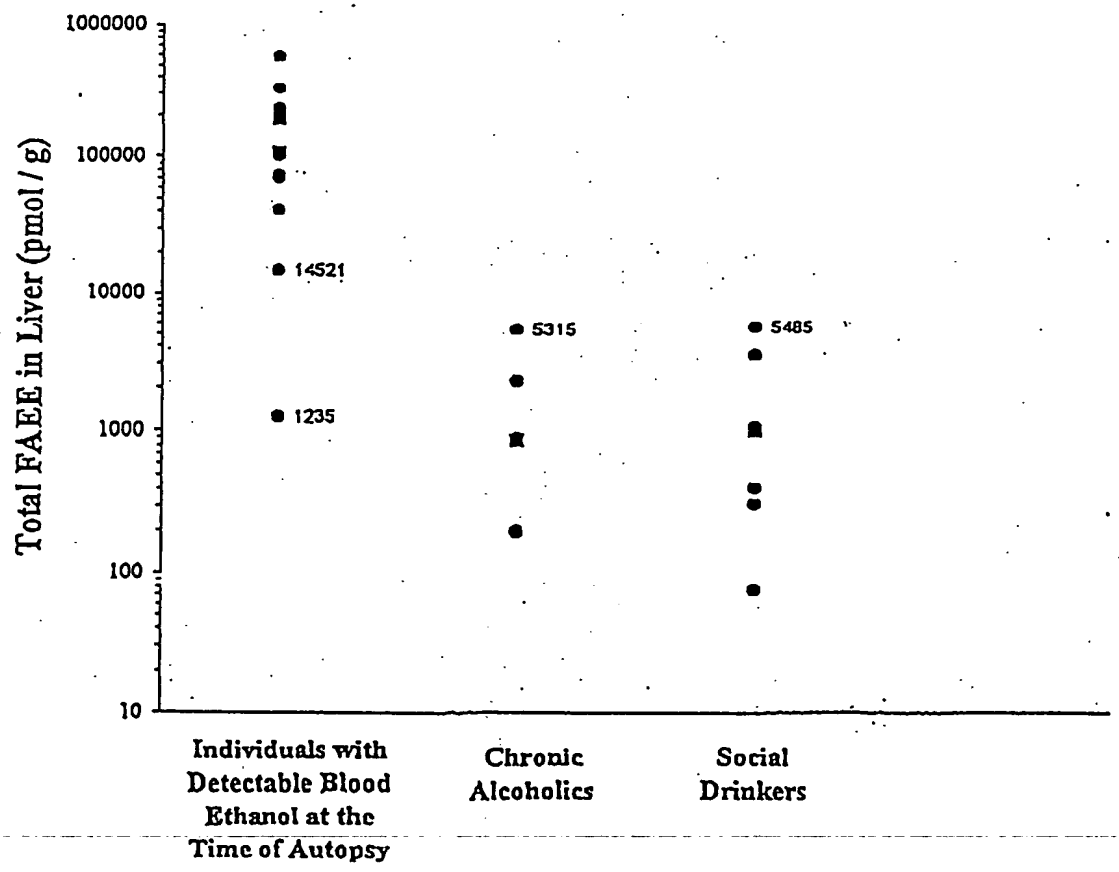

Total FAEE in Liver (pmol / g)
1000000
100000
10000
1000
100
10
14521
1235
5315
5485
Individuals with Detectable Blood Ethanol at the Time of Autopsy
Chronic Alcoholics
Social Drinkers

Figure .19

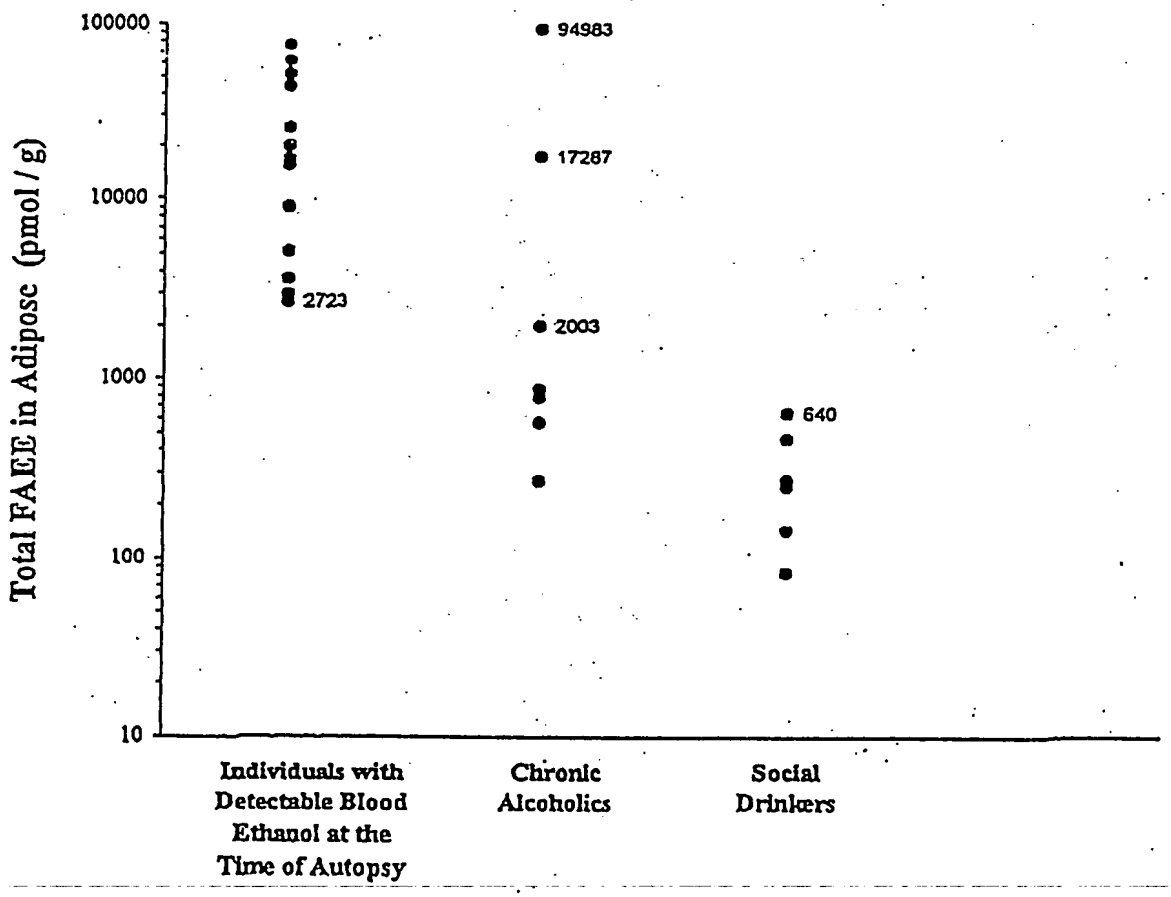

Total FAEE in Adipose (pmol / g)
100000
10000
1000
100
10
94983
17287
2003
640
2723
Individuals with Detectable Blood Ethanol at the Time of Autopsy
Chronic Alcoholics
Social Drinkers

Figure 20

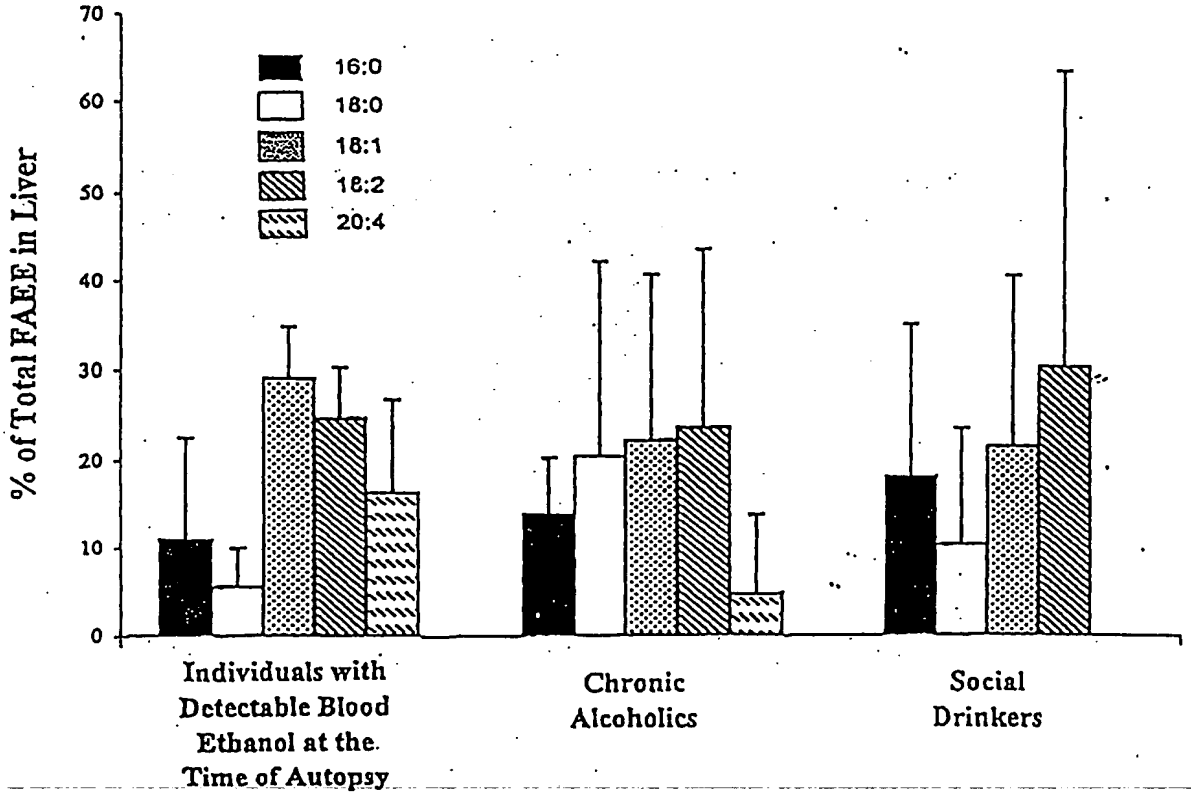

% of Total FAEE in Liver
70
60
50
40
30
20
10
0
16:0
18:0
18:1
18:2
20:4
Individuals with Detectable Blood Ethanol at the Time of Autopsy
Chronic Alcoholics
Social Drinkers

Figure 21

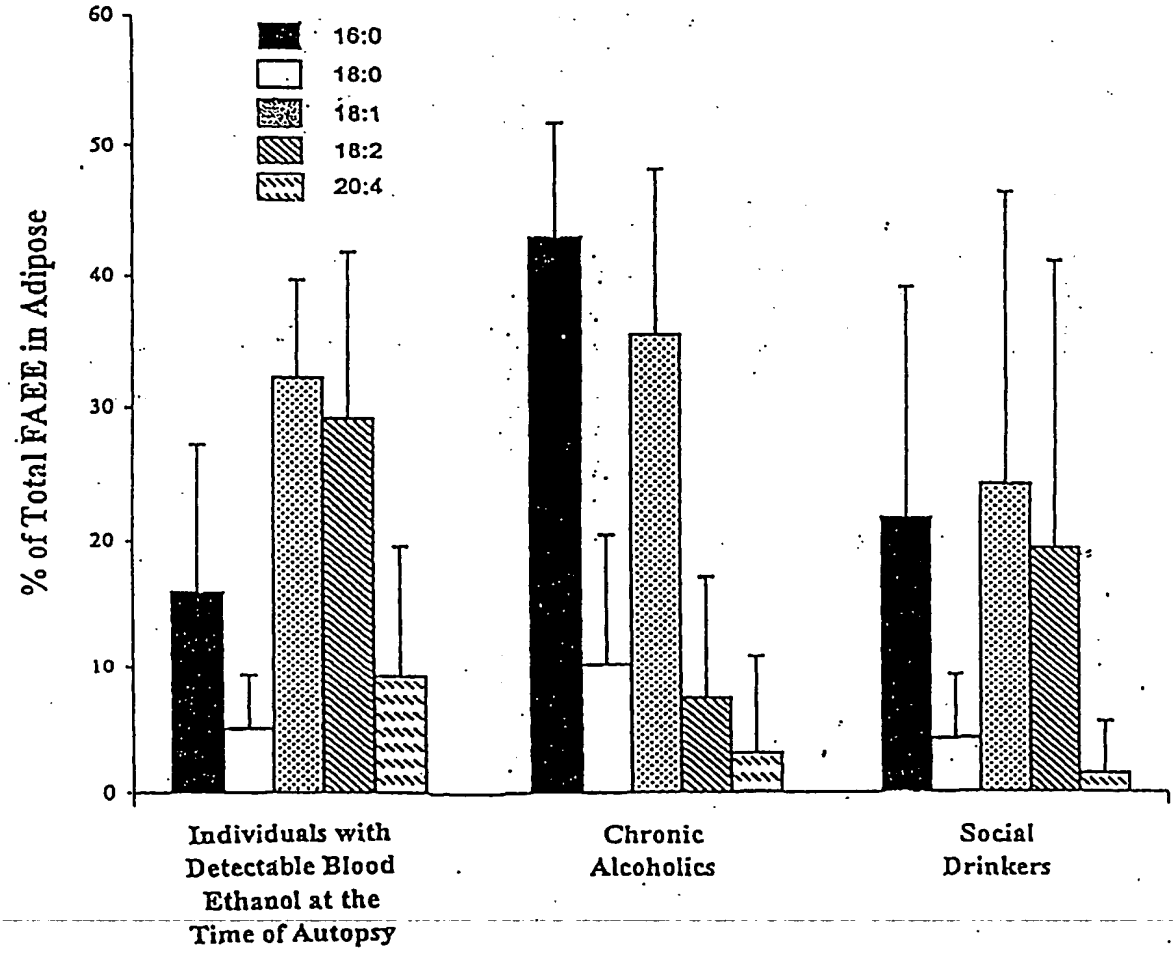

16:0
18:0
18:1
18:2
20:4
% of Total FAEE in Adipose
60
50
40
30
20
10
0
Individuals with Detectable Blood Ethanol at the Time of Autopsy
Chronic Alcoholics
Social Drinkers

Figure 22

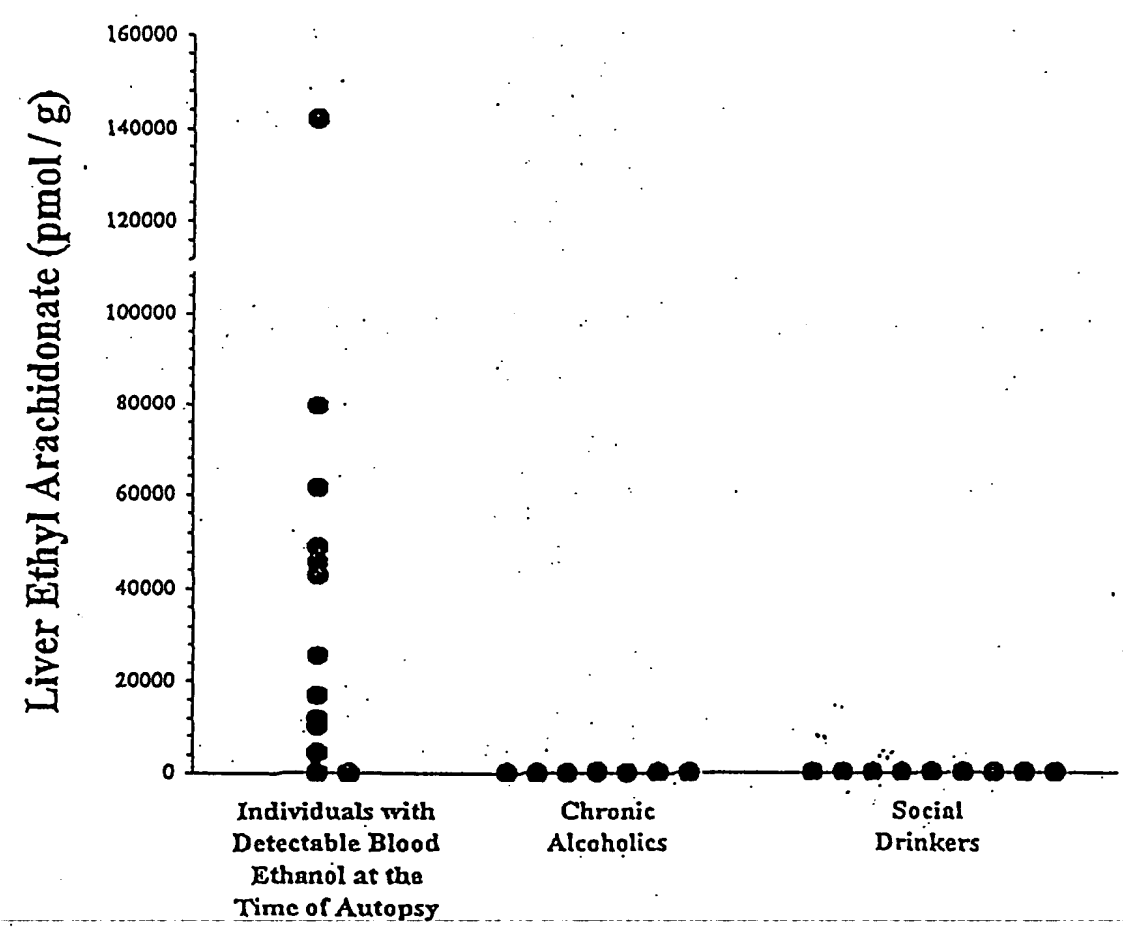

Liver Ethyl Arachidonate (pmol / g)
160000
140000
120000
100000
80000
60000
40000
20000
0
Individuals with Detectable Blood Ethanol at the Time of Autopsy
Chronic Alcoholics
Social Drinkers

Figure 23

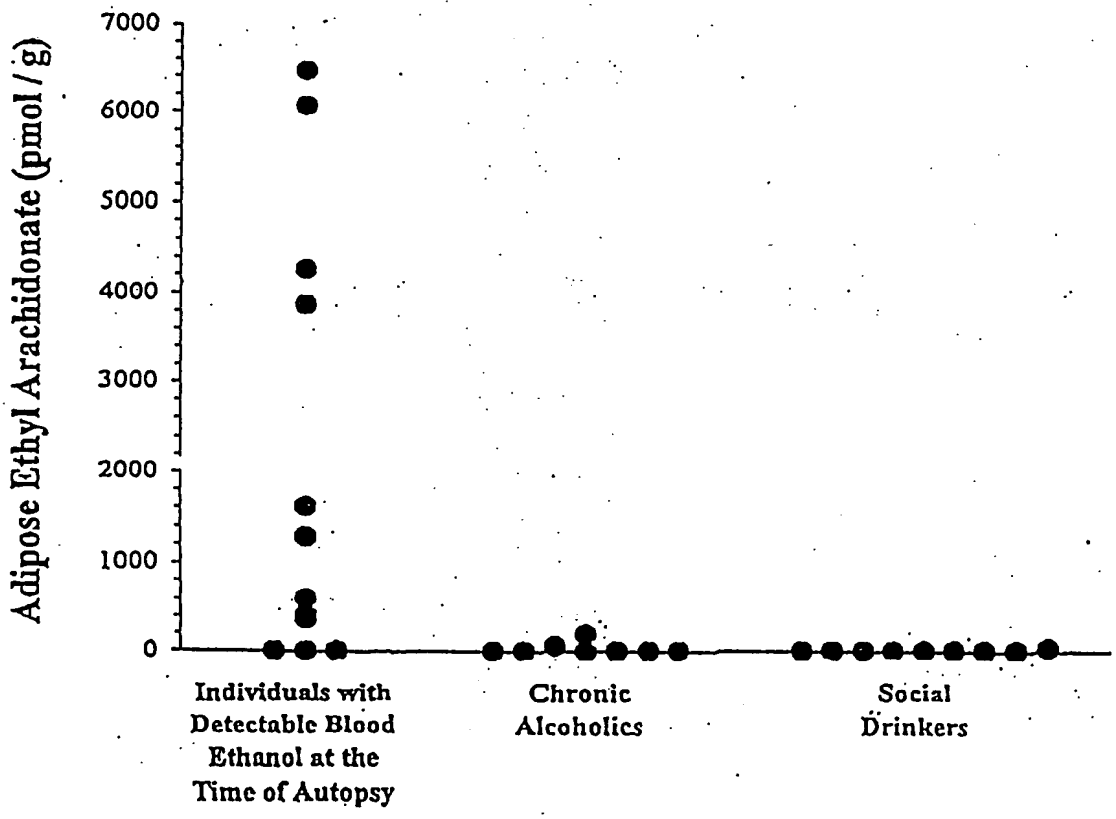
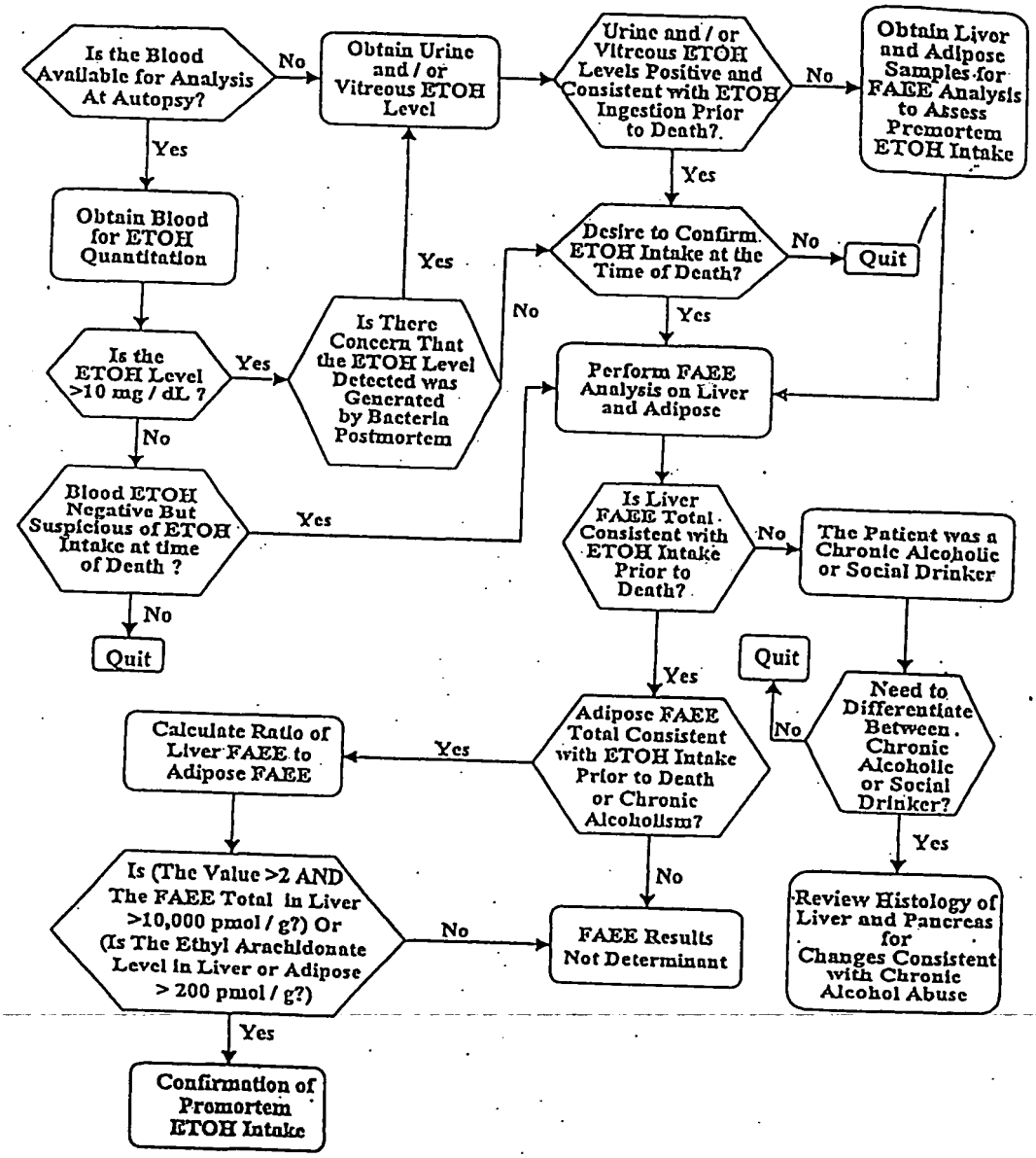

Adipose Ethyl Arachidonate (pmol / g)
7000
6000
5000
4000
3000
2000
1000
0
Individuals with Detectable Blood Ethanol at the Time of Autopsy
Chronic Alcoholics
Social Drinkers

Figure 24


Is the Blood Available for Analysis At Autopsy?
No
Obtain Urine and / or Vitreous ETOH Level
Urine and / or Vitreous ETOH Levels Positive and Consistent with ETOH Ingestion Prior to Death?
No
Obtain Liver and Adipose Samples for FAEE Analysis to Assess Premortem ETOH Intake
Yes
Obtain Blood for ETOH Quantitation
Yes
Desire to Confirm ETOH Intake at the Time of Death?
No
Quit
Yes
Is the ETOH Level >10 mg / dL ?
Yes
Is There Concern That the ETOH Level Detected was Generated by Bacteria Postmortem
No
Perform FAEE Analysis on Liver and Adipose
No
Blood ETOH Negative But Suspicious of ETOH Intake at time of Death ?
Yes
Is Liver FAEE Total Consistent with ETOH Intake Prior to Death?
No
The Patient was a Chronic Alcoholic or Social Drinker
No
Quit
Yes
Quit
Need to Differentiate Between Chronic Alcoholic or Social Drinker?
No
Yes
Calculate Ratio of Liver FAEE to Adipose FAEE
Yes
Adipose FAEE Total Consistent with ETOH Intake Prior to Death or Chronic Alcoholism?
No
Is (The Value >2 AND The FAEE Total in Liver >10,000 pmol / g?) Or (Is The Ethyl Arachidonate Level in Liver or Adipose > 200 pmol / g?)
No
FAEE Results Not Determinant
Yes
Review Histology of Liver and Pancreas for Changes Consistent with Chronic Alcohol Abuse
Yes
Confirmation of Premortem ETOH Intake